

## REMARKS

Claims 39 and 44-49 were pending in the application. Claims 39 and 44 have been amended and claim 49 has been canceled; no claims have been newly added. Upon entry of this response, therefore, claims 39 and 44-48 will remain pending and under active consideration with Claim 44 being independent.

Applicants respectfully request entry of the remarks made herein into the file history of the present invention. Reconsideration and withdrawal of the rejections set forth in the above-identified Office Action is respectfully requested.

### Claim objections

Claim 39 has been objected to for being dependent upon a canceled claim. Applicants thank the Examiner for noting the inadvertent error and have amended the claim to correct same. Claim 49 has been canceled without prejudice to future prosecution of the canceled subject matter. Applicants respectfully submit that the objections have hereby been rendered moot.

### Claims rejections under 35 U.S.C. § 112, first paragraph

Claims 39 and 44-49 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly *inter alia* containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants respectfully traverse this rejection.

The claims, as amended, are directed to a method of providing mature hepatocytes to a subject in need thereof comprising parenterally administering to the subject a composition expanded in hepatocyte precursor cells, the composition having been obtained by culturing a population of immature liver cells, including hepatocyte precursor cells capable of differentiating into mature hepatocytes, in a serum-free culture medium, extracellular matrix and liver stromal cells, and in which the hepatocyte precursor cells differentiate into mature hepatocytes *in vivo*. Applicants respectfully submit that the pending claims address each of points for rejection.

Indeed, the present claims recite the administration of a composition *expanded* in hepatocyte precursor cells, the composition having been obtained by culturing a population of immature liver cells, including hepatocyte precursor cells capable of differentiating into mature hepatocytes, in a serum-free culture medium, extracellular matrix and liver stromal cells. As noted in the record, compositions enriched in hepatocyte precursor cells and methods of obtaining same have been patented (USP Nos. 5576207, 5789246, and 6146889). What is more, these compositions comprising hepatic precursors cells, once transplanted in vivo, have the capacity to differentiate into “mature” hepatocytes. In this way, *mature* hepatocytes are provided to a subject in need thereof by administering a composition of cells comprising their *precursors*. Hence, Applicants respectfully submit that the pending claims overcome the § 112, first paragraph, rejections and respectfully request withdrawal of same.

**Claim rejections under 35 U.S.C. § 112, second paragraph**

Claim 39 stands rejected under 35 U.S.C. § 112, second paragraph, for reasons of record. Applicants have amended same claim to depend from claim 44. Accordingly, Applicants respectfully submit that the objection has been rendered moot and respectfully request withdrawal of same rejection.

**Double patenting**

The Examiner has provisionally rejected claims 44-49 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 35-41 of copending Application No. 10/127,697 (US 2003/0086910 AI). Without acquiescing to the propriety of the rejection, Applicants respectfully request the Examiner to stay this rejection until notice of allowable claims is provided.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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